

Engineering Report Requirements

s. NR 811.09, Wis. Adm. Code



An engineering report shall be submitted with all reviewable projects with the exception of (distribution) water main extensions. The engineering report shall contain the controlling assumptions made and the factors used in determining the functional design of the proposed waterworks improvements as a whole and of each of the component parts or units. Where applicable, the report shall make reference to available regional, metropolitan, county or local water supply or water quality management plans and shall clearly indicate whether the proposed project is in conformance with the plans (s. NR 811.09(3), Wis. Adm. Code).

The engineering report shall, in all cases, indicate the basis of design and include the following specific data, if applicable (s. NR 811.09(4), Wis. Adm. Code):

- (a) *Description*. A brief description of the project and the need for improvements;
- (b) *Location*. A description of the geographic location of the project, including reference to maps or exhibits and the location of existing facilities;
- (c) *Topography*. A brief description of the topography of the general area and its relation to the area involved in the project;
- (d) *Population*. Past census data and estimated future projection to the design year for the area involved in the project;
- (e) *Design period*. The design period being used for sizing major system components, based on the population projection;
- (f) *Investigations*. The results of any investigations such as soil borings, test wells, pilot tests, water quality data, and fire flow tests;
- (g) *Flooding*. Any areas of the project which are located within the floodway or floodplain;
- (h) *Wetlands*. Any areas of the project which are to be located within a wetland, pass through a wetland or may impact a wetland shall be identified;
- (i) *Recommendations*. After discussion of alternatives, the recommendations for improvements shall be listed and a statement of the reasons for selection of the recommended alternative shall be provided. A discussion of estimated capital costs and estimated annual operation and maintenance costs shall be included;
- (j) *Specific information*. The report shall, in addition, include specific information relevant to the type of project. The specific information required for each type of project is as follows:
 1. *Groundwater Sources* — Well site investigation report.
 2. *Surface Water Sources* — Surface water investigation report.
 3. *Water Treatment or Chemical Addition Process* — A summary establishing the adequacy of the proposed processes for the treatment of the specific water under consideration, including substantiation of the dosing and chemical blend proposed. Include any data from pilot or full-scale plant studies and describe the method of disposal of any wastes and any possible effects on the environment.
 4. *Pumping Facilities* — A description of the area to be served and the basis for design, including maximum and minimum discharge heads and flows, pump operational controls, and provisions for emergency operation.
 5. *Water Storage Facilities* — A description of the high to low static pressure range which the proposed facility will provide for existing and future service areas and the volume of domestic and fire storage required within the design period, and an explanation of how the proposed and existing facilities will meet these requirements. Provide a description of the relation and compatibility of the proposed facilities with existing facilities and any changes that will have to be made to the existing facilities.